

Amendment dated June 11, 2009

Reply to Office Action of March 13, 2009

REMARKS/ARGUMENTS

Claims 1-20 and 22-25 are pending. By this Amendment, the specification, and claims 1 and 12 are amended. No new matter has been added. Support for claims can be found throughout the specification, including the original claims, and the drawings. Reconsideration in view of the above amendments and following remarks is respectfully requested.

The Office Action rejected claims 1 and 7 under 35 U.S.C. §102(b) as being anticipated by Jeon, U.S. Patent No. 5,941,085. The rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, a fan in the cold air duct that selectively directs the cold air in an upward or downward direction, and an open/close device that selectively opens and closes a space containing the evaporator, the defrosting heater, and the fan positioned therein, wherein the space communicates with both the refrigerating chamber and the freezing chamber, and wherein the open/close device is configured to be rotated by a force of a flow of the cold air generated by rotation of the fan so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber are performed by the open/close device simultaneously. Jeon does not disclose or suggest at least such features, or the claimed combination of independent claim 1.

That is, the Examiner corresponds element 180 (disclosed by Jeon as a fan) to the claimed fan and element 290 (disclosed by Jeon as a valve) to the claimed open/close device of independent claim 1. However, Jeon merely teaches that the fan 180 blows chilled air into a freezer compartment 120. See, for example, col. 5, lines 1-5 of Jeon. Jeon does not disclose or

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suggest that the fan 180 is capable of selectively directing cold air in an upward or downward direction. Further, the valve 290 of Jeon only closes an opening 155 into the freezer compartment 120. See, for example, col. 5, lines 52-58 of Jeon. Thus, the valve 290 of Jeon does not selectively open and close space 140 containing evaporator 160, heater 170, and the fan 180 from the freezer compartment 120 and refrigerating compartment 130 simultaneously. Return passages 125 and 135 of Jeon remain open even when the valve 290 is closed. Additionally, there is no disclosure or suggestion in Jeon that valve 290 is configured to be rotated by a force of a flow of the cold air generated by rotation of the fan 180.

Accordingly, the rejection of independent claim 1 over Jeon should be withdrawn. Dependent claim 7 is allowable over Jeon at least for the reasons discussed above with respect to independent claim 1, from which it depends, as well as for its added features.

The Office Action rejected claims 1, 10-13, 17-18, 20, and 22 under 35 U.S.C. §103(a) as being unpatentable over Schenk et al. (hereinafter "Schenk"), U.S. Patent No 6,694,754, in view of Carlstedt et al. (hereinafter "Carlstedt"), U.S. Patent No. 5,765,384. The rejection is respectfully traversed.

The Examiner asserted that Schenk discloses all of the claimed features of independent claims 1 and 12 except that "Schenk [fails] to disclose at least one defrosting heater in the cold air duct in contact with the fins for selective emission of heat..." The Examiner then asserted that Carlstedt teaches these features and argues that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the refrigerator of

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Schenk [] to include the defrost heater as taught by Carlstedt [] in order to prevent ice buildup on the evaporator from clogging the cold air duct, thus increasing cooling efficiency."

However, independent claim 1 recites, *inter alia*, at least one defrosting heater in the cold air duct configured to selectively emit heat, a fan in the cold air duct that selectively directs the cold air in an upward or downward direction, and an open/close device that selectively opens and closes a space containing the evaporator, the defrosting heater, and the fan positioned therein, wherein the space communicates with both the refrigerating chamber and the freezing chamber, and wherein the open/close device is configured to be rotated by a force of a flow of the cold air generated by rotation of the fan so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber are performed by the open/close device simultaneously. Independent claim 12 recites, *inter alia*, at least one defrosting heater in contact with one or more of the plurality of fins for selective emission of heat, and an open/close device provided at an upper portion and a lower portion of a space containing the evaporator and the defrosting heater positioned therein, that opens and closes the space, wherein the space communicates with both the refrigerating chamber and the freezing chamber, and wherein the open/close device is configured to be rotated so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber are performed by the open/close device simultaneously. Schenk and Carlstedt, taken alone or in combination, do not disclose or suggest such features of independent claims 1 and 12, or the respective claimed combinations.

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That is, with respect to independent claim 1, Schenk fails to disclose or suggest a fan in the cold air duct that selectively directs the cold air in an upward or downward direction. Further, Schenk fails to disclose or suggest an open/close device that selectively opens and closes a space containing the evaporator, the defrosting heater, and the fan positioned therein, wherein the space communicates with both the refrigerating chamber and the freezing chamber, and wherein the open/close device is configured to be rotated by a force of a flow of the cold air generated by rotation of the fan so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber are performed by the open/close device simultaneously, or the claimed combination of independent claim 1. With respect to independent claim 12, Schenk does not disclose or suggest an open/close device provided at an upper portion and a lower portion of a space containing the evaporator and the defrosting heater positioned therein, that opens and closes the space, wherein the space communicates with both the refrigerating chamber and the freezing chamber, and wherein the open/close device is configured to be rotated so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber are performed by the open/close device simultaneously.

That is, the Examiner asserted that element 40 (disclosed by Schenk as an evaporator fan) and element 48 (disclosed by Schenk as an air door) correspond to the claimed fan of independent claim 1 and the open/close device of independent claims 1 and 12, respectively. Schenk discloses that the evaporator fan 40 circulates a first stream of air 44 through a freezer

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compartment 24 and over an evaporator 30 and a second stream of air 46 through a fresh food compartment 22 and over the evaporator 30. See, for example, Fig. 2 and column 4, lines 45-49 of Schenk. It is respectfully submitted that both the first stream of air 44 and the second stream of air 46 are circulated by the evaporator fan 40 simultaneously. Whereas, the claimed fan in the cold air duct selectively directs the cold air in an upward or downward direction. Thus, the evaporator fan 40 of Schenk does not correspond to the claimed fan of independent claim 1.

Further, the air door 48 of Schenk is driven by an air door motor 50, and when the air door 48 is in a closed position, only the second stream of air 46 is prevented from flowing through the fresh food compartment 22. See, for example, Fig. 2 and column 4, lines 49-56 of Schenk. Whereas, the claimed open/close device of independent claim 1 is configured to be rotated by a force of a flow of the cold air generated by rotation of the fan so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber is performed by the open/close device simultaneously, and the claimed open/close device of independent claim 12 is configured to be rotated so that the opening or closing between the space and the refrigerating chamber and the space and the freezing chamber is performed by the open/close device simultaneously. Thus, the air door 48 of Schenk does not correspond to the claimed open/close device of independent claims 1 and 12. Therefore, Schenk fails to disclose or suggest at least such features of independent claims 1 and 12.

Further, Carlstedt does not disclose or suggest at least one defrosting heater in the cold air duct configured to selectively emit heat, as recited in independent claim 1, or at least one

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defrost heater in contact with one or more of the plurality of fins for selective emission of heat, as recited in independent claim 12. Rather, Carlstedt discloses an evaporator 10 comprising a tubular element 12, through which a refrigerant flows, and having an inner pipe 16 and an outer pipe 22. A heating cable 20 is arranged between the inner pipe 16 and the outer pipe 22. A defrost operation is performed by the resistance wire disposed within the tubular element 12. See column 1, lines 55-67 of Carlstedt.

Accordingly, the rejection of independent claims 1 and 12 over Schenk and Carlstedt should be withdrawn. Dependent claims 10-11, 13, 17-18, 20, and 22 are allowable over Schenk and Carlstedt at least for the reasons discussed above with respect to independent claims 1 and 12, from which they respectively depend, as well as for their added features.

The Office Action rejected claim 2 under 35 U.S.C. §103(a) as being unpatentable over Jeon in view of Schenk. The rejection is respectfully traversed.

Dependent claim 2 is allowable over Jeon and Schenk at least for the reasons set forth above with respect to independent claim 1, from which it depends, as well as for its added features. Accordingly, this rejection should be withdrawn.

The Office Action rejected claims 3-6 under 35 U.S.C. §103(a) as being unpatentable over Jeon and Schenk, in view of Kim et al. (hereinafter “Kim”), U.S. Patent No 5,987,904. The rejection is respectfully traversed.

Dependent claims 3-6 are allowable over Jeon and Schenk at least for the reasons discussed above with respect to claim 2, from which they depend, as well as for their added

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features. Kim fails to overcome the deficiencies of Jeon and Schenk, as it is merely cited for allegedly teaching providing a supporting plate having a plurality of openings, and a plurality of rotating plates each having one side coupled to the supporting plate by a hinge, and the other side rotatable upward by a predetermined angle (claim 3), wherein each rotating plate comprises a thin plate that is rotated upward by a predetermined angle to open a respective opening of the plurality of openings (claim 4), wherein the rotating plate covers an upper circumference of the respective opening to close the opening (claim 5), and wherein the rotating plate is held by a rear end of an adjacent rotating plate and the supporting plate, to prevent the rotating plate from rotating downward (claim 6). Accordingly, the rejection of claims 3-6 over Jeon, Schenk, and Kim should be withdrawn.

The Office Action rejected claim 8 under 35 U.S.C. §103(a) as being unpatentable over Jeon, in view of Mitani et al. (hereinafter “Mitani”), U.S. Patent No 4,569,206. The rejection is respectfully traversed.

Dependent claim 8 is allowable over Jeon at least for the reasons discussed above with respect to claim 1, from which it depends, as well as for its added features. Mitani fails to overcome the deficiencies of Jeon, as it is merely cited for allegedly teaching wherein the defrosting heater is positioned between the fan and the evaporator. Accordingly, the rejection of claim 8 over Jeon and Mitani should be withdrawn.

The Office Action rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over Jeon, in view of Block (hereinafter “Block”), U.S. Patent Publication No. 2002/0192075. The

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rejection is respectfully traversed.

Dependent claim 9 is allowable over Jeon at least for the reasons discussed above with respect to independent claim 1, from which it depends, as well as for its added features. Block fails to overcome the deficiencies of Jeon, as it is merely cited for allegedly teaching wherin a defrosting heater is fabricated as one unit with the fan. Accordingly, the rejection of claim 9 over Jeon and Block should be withdrawn.

The Office Action rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Schenk and Carlstedt, in view of Lindseth, U.S. Patent No. 2,000,467. The rejection is respectfully traversed.

Dependent claim 14 is allowable over Schenk and Carlstedt at least for the reasons discussed above with respect to independent claim 12, from which it depends, as well as for its added features. Lindseth fails to overcome the deficiencies of Schenk and Carlstedt, as it is merely cited for allegedly teaching wherin the hot wire is a bent carbon hot wire. Accordingly, the rejection of claim 14 over Schenk, Carlstedt, and Lindseth should be withdrawn.

The Office Action rejected claims 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over Schenk and Carlstedt, in view of Komatsu, U.S. Patent No. 5,594,585. The rejection is respectfully traversed.

Dependent claims 15 and 16 are allowable over Schenk and Carlstedt at least for the reasons discussed above with respect to independent claim 12, from which they depend, as well as for their added features. Komatsu fails to overcome the deficiencies of Schenk and Carlstedt,

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as it is merely cited for allegedly teaching wherein the film is formed of PET material (claim 15) and wherein the defrosting heater is a PTC device (claim 16). Accordingly, the rejection of claims 15 and 16 over Schenk, Carlstedt, and Komatsu should be withdrawn.

The Office Action rejected claim 19 under 35 U.S.C. §103(a) as being unpatentable over Schenk and Carlstedt, in view of Seipp et al. (hereinafter “Seipp”), U.S. Patent No. 3,786,227. The rejection is respectfully traversed.

Dependent claim 19 is allowable over Schenk and Carlstedt at least for the reasons discussed above with respect to independent claim 12, from which it depends, as well as for its added features. Seipp fails to overcome the deficiencies of Schenk and Carlstedt, as it is merely cited for allegedly teaching wherein the defrosting heater has pass through holes for the at least one refrigerant pipe. Accordingly, the rejection of claim 19 over Schenk, Carlstedt, and Seipp should be withdrawn.

The Office Action rejected claims 23-25 under 35 U.S.C. §103(a) as being unpatentable over Schenk, Carlstedt, and Jeon, in view of Kim. The rejection is respectfully traversed.

Dependent claims 23-25 is allowable over Schenk, Carlstedt, and Jeon at least for the reasons discussed above with respect to independent claim 12, from which they depend, as well as for their added features. Kim fails to overcome the deficiencies of Schenk, Carlstedt, and Jeon, as it is merely cited for allegedly teaching providing a supporting plate having a plurality of openings, and a plurality of rotating plates each having one side coupled to one side of the supporting plate by a hinge, and the other side rotatable upward by a predetermined angle (claim

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23), wherein the rotating plate comprises a thin plate that is rotated upward by a predetermined angle to open a respective opening of the plurality of openings (24), and wherein the rotating plate covers an upper circumference of the respective opening to close the opening (25). Accordingly, the rejection of claims 23-25 over Schenk, Carlstedt, Jeon, and Kim should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

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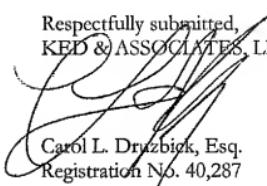
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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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